

---

**SYSTEM AND METHOD FOR EVALUATING HEART FAILURE  
BASED ON VENTRICULAR END-DIASTOLIC VOLUME  
USING AN IMPLANTABLE MEDICAL DEVICE**

---

**Abstract of the Invention**

Techniques are provided for evaluating heart failure within a patient based on ventricular impedance measurements. Briefly, values representative of ventricular end-diastolic volume (EDV) are detected using ventricular electrodes and then heart failure, if occurring within the patient, is evaluated based on ventricular EDV. In this manner, ventricular EDV is used as a proxy for ventricular end-diastolic pressure. By using ventricular EDV instead of ventricular end-diastolic pressure, heart failure is detected and evaluated without requiring sophisticated sensors or complex algorithms. Instead, ventricular EDV is easily and reliably measured using impedance signals sensed by implanted ventricular pacing/sensing electrodes. The severity of heart failure is also evaluated based on ventricular EDV values and heart failure progression is tracked based on changes, if any, in ventricular EDV values over time.